



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,268	07/07/2005	John L Schenk	XY-lowPressure-USNP	5591
33549	7590	08/28/2006	EXAMINER	
SANTANGELO LAW OFFICES, P.C. 125 SOUTH HOWES, THIRD FLOOR FORT COLLINS, CO 80521			NOBLE, MARCIA STEPHENS	
			ART UNIT	PAPER NUMBER
			1632	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/523,268	SCHENK ET AL.	
	Examiner	Art Unit	
	Marcia S. Noble	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-61 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) \_\_\_\_ is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) 1-61 are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_.

## DETAILED ACTION

1. Claims 1-61 are pending.

### *Election/Restrictions*

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-40, drawn to a method of generating a sperm cell insemination sample with controlled fertility characteristics.

Group II, claim(s) 41-52, drawn to a method of sorting sperm by sex utilizing flow cytometry.

Group III, claim(s) 53-57, drawn to a method of assessing the fertility of sexed sperm comprising determining the ratio of Y sperm with a first treatment to X sperm with a second treatment.

Group IV, claim(s) 58-60, drawn to a method of assessing the fertility of sperm comprising the comparison of pregnancies and offspring rates between the sperm of two males following artificial insemination.

Group V, claim(s) 61, drawn to a method of assessing the fertility of sperm comprising the comparison of in vitro fertilization rates between the sperm of two males.

The inventions listed as Groups I-V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

- A) The invention has no special technical feature that defined the contribution over the prior art, or
- B) Unity of invention between different categories of inventions will only be found to exist if specific combinations of inventions are present. Those combinations include:
  - 1) A product and a special process of manufacture of said product.
  - 2) A product and a process of use of said product.

Art Unit: 1632

3) A product, a special process of manufacture of said product, and a process of use of said product.

4) A process and an apparatus specially designed to carry out said process.

5) A product, a special process of manufacture of said product, and an apparatus specially designed to carry out said process.

The allowed combinations do not include multiple products, multiple methods of using said products, and methods of making multiple products as claimed in the instant application, see MPEP § 1850.

Applicant's claims encompass multiple inventions and do not have a special technical feature which link the inventions one to the other, and lack unity of invention.

A) The requirement that a technical feature be special is not met because it is anticipated by Rath et al. (J Anim Sci 77:3346-3352, 1999) and therefore represents a lack of unity in these inventive entities. to be examined even though the requirement be traversed (37 CFR 1.143).

Claim 1 encompasses a method of generating a sperm cell insemination sample comprising: a.) obtaining semen from a male of a species of mammal, b.) generating a fluid stream with flow characteristics, c.) altering flow characteristics of said fluid stream to adjust fluid stream pressure, d) entraining said sperm cells into said fluid stream, e.) controlling sperm cell fertility characteristics through adjustment of said fluid stream pressure, and f.) generating a sperm cell insemination sample having controlled sperm cell fertility characteristics.

Rath et al discloses a method of sorting sperm by sex and determining its ability to generate embryos by in vitro fertilization. Their method comprised of collecting sperm from boars (p. 3347, col 2, par 1, line 1-2), subjecting the sperm to flow cytometry, and determining the generation of embryos produced by in vitro fertilization (a measure of fertility characteristics) with sex sorted sperm or unsorted sperm (p. 3348 in total). The flow cytometry consisted of generating a flow and entraining sperm samples into the fluid stream (p. 3348, col 1). They disclosed that they adjust the fluid stream flow through the adjustment of pressure to using high-speed sperm sorting with a fluid sheath pressure of 2.81 kg/cm<sup>2</sup> to improving sorting and fertility characteristics over standard speed sorting (p. 3346, col 2, lines 3-7 and p. 3348, col 1).

B.) The instant claims are also drawn to multiple methods with two different technical features. The first technical feature, encompassed in claims 1-40 and 58-61, is a method of generating sperm with controlled fertilization characteristics. The second technical feature, encompassed in claims 41-57, is a method of generating sperm with controlled sex characteristics of sperm. Characteristics of fertilization are independent of characteristics of sex. They are also determined by different methods as well. Therefore, fertilization characteristics and sex characteristics are two independent technical features representing multiple methods.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcia S. Noble whose telephone number is (571) 272-5545. The examiner can normally be reached on M-F 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marcia S. Noble

*Marcia S. Noble*  
AV 1632